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ILD FLOWERS

AND HOW TO IDENTIFY THEM

HILDERIC FRIEND

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BRITISH WILD FLOWERS

PLATE I.—POPPIES. *Frontispiece*

WILD FLOWERS

AND

HOW TO IDENTIFY THEM

AN INTRODUCTION TO
THE BRITISH FLORA

BY

HILDERIC FRIEND

AUTHOR OF
'THE FLOWERS AND THEIR STORY,'
'FLOWERS AND FLOWER LORE,'
ETC., ETC.

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THE PLAN

As one may reach the heart of a city by many different roads, so the student may find his way into the heart of flower-craft in a variety of ways. Many plans have been adopted to make botany easy. In this little volume we shall endeavour to use all that is best of the different methods. Those who take us for their guide should have a pocket-lens, and should study the plants where they find them growing.

It is necessary at the outset to master the four whorls of a blossom.

(1) The outer whorl, usually green, is the calyx, and is made up of sepals, either separate or joined together. Examples are the buttercup and primrose (Fig. 1).

(2) The next whorl, which is usually coloured, is called the corolla. It is made up of petals, which may be either separate or joined together, as in the flowers already named (Fig. 1).

(3) Inside the petals come the stamens, and it is important to notice where they are situated. In some cases, as in the primrose, they are attached to the petals. In others, as in the buttercup, the stamens remain after the petals and sepals are removed. They are on the receptacle.

(4) In the very heart of the flower will be found the pistil, which in the primrose is like

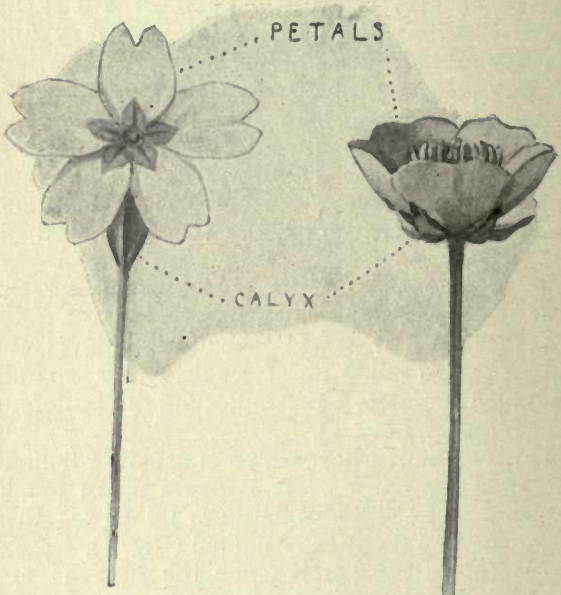


FIG. 1.—BLOSSOMS OF PRIMROSE AND BUTTERCUP, SHOWING PETALS AND CALYX.

a pin. It must be noted that some flowers have not all the four sets of organs. The pistils and stamens are of the greatest importance when we come to classification (Fig. 3).

The other parts of the flower or plant, such as leaves, prickles, tendrils, bracts, glands, fruits and seeds, are of great value for distinguishing different classes and orders. Our British Wild Flowers chiefly fall into two great groups, known as monocotyledons and dicotyledons; and they are distinguished as follows:—

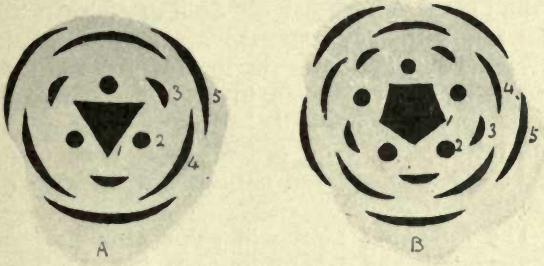


FIG. 2.—DIAGRAM OF MONO- AND DICOTYLEDON.

A. Monocotyledon; B, Dicotyledon. 1. Pistil; 2. Inner whorl of stamens; 3. Outer whorl; 4. Petals; 5. Calyx. The perianth is made up of 4 and 5.

MONOCOTYLEDONS	DICOTYLEDONS
Leaves	
with parallel veins.	with netted veins.
Organs of flowers in	
threes or sixes.	in fours or fives.
Stem	
with separable bark.	without separable bark.
wood in bundles, not in rings.	wood in annual layers or rings.
Seeds	
with one seed leaf.	with two seed leaves.

The crocus, lily, or narcissus (Fig. 4) will represent the monocotyledons; the primrose, buttercup (Fig. 1), or geranium may illustrate the dicotyledons.

All our trees and shrubs belong to the dicotyledons. There is only one exception—the butcher's broom (85).[1]

As the subject is so large we shall not be able to classify the trees, shrubs, grasses, sedges, rushes and weeds. Our wild flowers may chiefly be studied in three ways: according to (1) the season, (2) the situation, or (3) the structure. I shall give some hints on each of these heads, and follow the suggestions with a list of plants, arranged somewhat on the lines which Linnaeus adopted. This consists in noting the number of stamens and pistils. But, as our plants fall into families or orders, it will be found necessary to blend the natural system with the Linnean.

The following Plan will show how the work is arranged, and where to look for any given subject:

I. The Flowers in Season (p. 13).

II. The Flowers in Situation (p. 16).

(1) Hedgerows, banks, and ditches.
(2) Meadows and fields.
(3) Heaths, downs, and commons.
(4) Woodlands and forests.
(5) Marshes, fens, and bogs.
(6) Lakes, ponds, and rivers.
(7) The seashore and estuary.

[1] The numbers in parentheses refer to the list at the end.

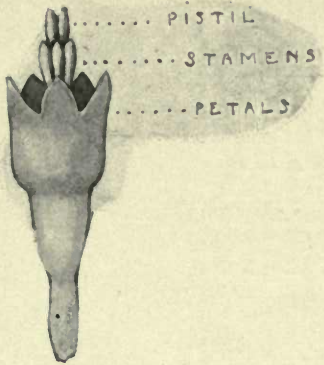
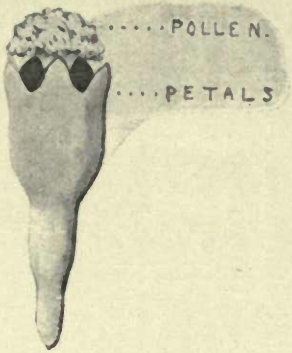
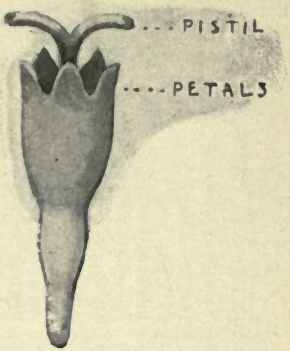


FIG. 3.—DISK-FLORETS OF DAISY.



SHEDDING POLLEN.



WITH STIGMAS EXTENDED.

III. The Structure and Habits of Flowers (p. 20).

(1) General observations.
(2) The blossom.
(3) Catkins.
(4) Fruits and seeds.
(5) Leaves, bracts, and stipules.
(6) Stems and outgrowths.
(7) Climbing and rambling.
(8) Roots and tubers.
(9) Aromatics and poisons.
(10) Fly catchers.
(11) Spurges and orchids.

IV. The Classification of Flowers (p. 37).

Group	Character.	Linnean Name.
I.	2 stamens, 1 pistil	Diandria.
II.	3 stamens, 1 pistil	Triandria.
III.	4 stamens, 1 pistil	Tetrandria.
IV.	4 stamens, 2 long, 2 short . . .	Didynamia.
V.	5 stamens free	Pentandria.
VI.	5 stamens, 2 pistils	Umbelliferae.
VII.	5 stamens, several pistils . . .	Pentandria.
VIII.	5 stamens forming a tube . . .	Syngenesia.
IX.	6 stamens equal	Hexandria.
X.	6 stamens unequal	Tetradynamia.
XI.	8 stamens free	Octandria.
XII.	9 stamens free	Enneandria.
XIII.	10 stamens equal	Decandria.
XIV.	10 stamens, bases joined . . .	Monadelphia.
XV.	10 stamens in 2 sets	Diadelphia.
XVI.	10 to 20 stamens	Dodecandria.
XVII.	20 stamens, more or less . . .	Icosandria.
XVIII.	many stamens	Polyandria.

BRITISH WILD FLOWERS
AND HOW TO IDENTIFY THEM

I. The Flowers in Season

Every one has observed that when the spring arrives the flowers appear, and that they become fewer and fewer as winter advances. The best time to begin study is in the New Year, before the flowers bewilder us with their profusion.

Spring Blossoms

The earliest flowers to appear, if we put aside the daisy, dandelion, groundsel, chickweed, dead nettle, and a few others which often survive the winter, are the following: The celandine (167, ii) with its golden stars, the sweet violet (74), coltsfoot (Group viii), barren strawberry, speedwell, and dog's mercury. In the woods we see the catkins (see p. 25) on the hazel, alder, willow, and other trees, and find the fragrant blossoms on the spurge laurel (113). The primrose (52) is in full flower in March, and soon the hyacinths make their azure carpet

under the trees. On dry walls the tiny whitlow-grass (100) appears, and the adoxa (112) in the hedgerows, where the tall treacle mustard is also flourishing. The buttercups (167) come rapidly forward in April, the anemone (165) flourishes, and the early orchids (see p. 35) appear.

May Flowers

are almost too numerous to mention. Most of the trees are now gay with colour—crab, hawthorn, wild rose, elder, guelder rose, and others being in season. The cowslip, lady's smock, herb robert, mallow (175), pansy, scarlet pimpernel (55), avens, and poppies (Plate I) give beauty to the landscape. Then the

Summer Blossoms

burst upon us in all their glory. It will now be necessary to work hard to keep up with the new treasures which may everywhere be discovered. The water lilies (Plate II), pond weeds, iris, purple loosestrife (141), willowherbs, meadow-sweet (145), and other moisture-lovers adorn the streams and lakes; heathers and their allies are on the moors; while the sea holly, horned poppy (160), celery, sea campion, convolvulus (62), and other plants of the sea-shore are at their best.

Autumn

is the season for all kinds of seeds and fruits, and, as these often afford the best means of identify-

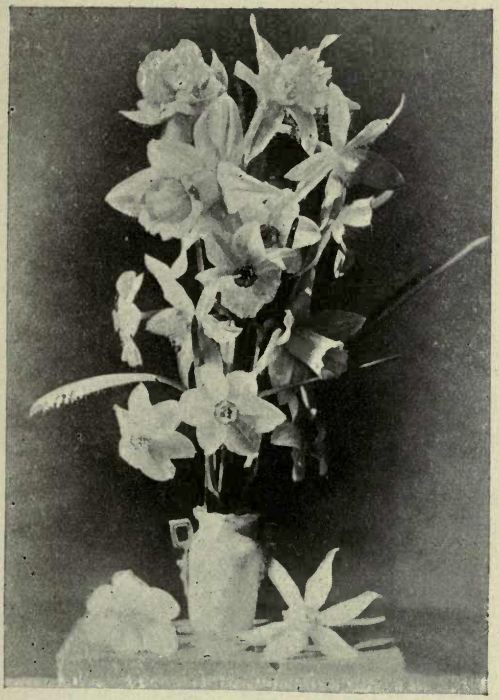


FIG. 4.—A STUDY OF NARCISSUS BLOOMS
(see Group ix, p. 51).

ing plants, they should be carefully studied. The composites and umbels are mostly in evidence now, but a number of hardy plants, such as appear in spring and summer, still linger. Among these are different members of the buttercup and mint families (Group iv), some crucifers (Group x), polygonums, and the like. The pretty grass of Parnassus (79), the stately foxglove (40), and the bell-flowers (59) are also to be found. As the year approaches its close, the ivy (72) and a few other plants come into bloom, and the fruits glitter in the hedgerows.

II. The Flowers in Situation

It is often easy to decide what a flower is by means of its habitat. Some plants can only live in water, others only by the seashore. It is always well to begin study near home, and as most of the young people who will use this little volume live in the country, we may take them, first, to look for the flowers which grow in

1. *Hedgerows, Banks, and Ditches*

Sweet violets appear early, as well as the celandine (167). Dead nettle, treacle mustard, adoxa (112), avens follow. Then come the barren strawberry and the real strawberry, the little geranium (131) known as herb robert, the campion, stitchwort, various plants called umbels (Group vi) because their flowers spread

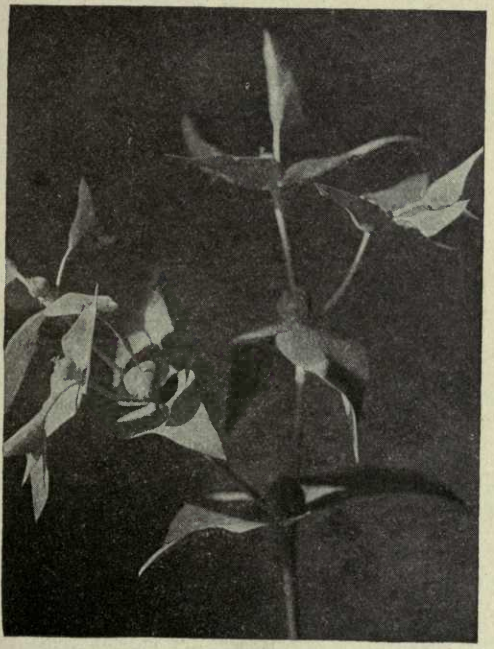


FIG. 5.—CAPER-SPURGE.

out like an umbrella, the bedstraws, agrimony (142), and mallow (175), to mention no others. In

2. *The Meadows and Fields*

we find buttercups and daisies, cowslips (52), geraniums (131), saffron, orchids (8) of different kinds, eyebright, various sorts of thistles, and many weeds. On

3. *Heaths, Downs, and Commons*

the foxglove (40) flourishes, the whortleberry and heather abound, the golden potentillas (147) are common. Many plants which grow freely in hedgerows belong also to

4. *Woodland and Forest*

Here we get various shrubs and climbing plants growing among the trees. Honeysuckle, bryony, deadly nightshade or Belladonna (Plate III), and the spurge laurel (113) are found. The curious spurges (Fig. 5, No. 144), several orchids (8), the hyacinth, foxglove, and giant bell-flower (59) also occur. Woodruff, madder, herb paris (111), and many other curious plants also haunt these sites. In the

5. *Marshes, Fens, and Bogs*

one is bewildered with riches. The marsh marigold (168), globe-flower (169), valerian, orchids, bog bean (60), bog myrtle, mealy prim-

FIG. 6.—CATKINS OF HAZEL.

FIG. 7.—DODDER (*Cuscuta*).

rose (52), grass of Parnassus (79), sundew (82), bog asphodel (93), yellow and purple loose-strifes, water violet (53), frog-bit (116), water lily (Fig. 17), cotton grass, water crowfoot, marsh cinquefoil (148), and gipsywort are but a few.

6. *Lakes, Ponds, and Rivers*

yield some of the foregoing, along with others, such as the lobelia, flowering rush (Plate II), pond weeds, marestail, and others.

7. *The Seashore and Estuary*

have a delightful flora of their own. It is usually somewhat late, but includes sea holly, horned poppy (160), viper's bugloss (51), sea convolvulus (62), thrift, sea heath, campion, samphire, aster, some beautiful thistles, the pretty sea lavender (80), and the lovely little burnet rose (151). This must suffice as a general guide to the situations in which plants may be found. We turn now to the important subject of structure.

III. The Structure and Habits of Flowers

1. *General Observations*

Flowers differ in many ways, and it is by observing their differences of form, colour, habit, and structure that we are able to arrange them

PLATE III.—DEADLY NIGHTSHADE.

in families and orders. If we look at the shapes of the blossoms we find some are like a bell and others like an insect. This one is round, or salver-shaped, and that is fashioned like a thimble. When we study the colours we observe that there is the same infinite variety. We have the peculiar yellow of the primrose (Fig. 1) and the scarlet of the pimpernel (55). The flaming colour of the poppy (Plate I) is opposed to the dazzling whiteness of the water lily (Plate II). We have large numbers of yellow, white, and blue flowers ; but even greater numbers are marked with variations in patches, spots, lines, and patterns.

Some plants creep, or send out suckers or stolons ; while others have tendrils, hooks, and feelers, by means of which they climb and ramble. If we dig up specimens we observe that some have corms, tubers, and rhizomes, while others have scales or fibres. We are struck by the varying number of sepals and petals, of stamens and pistils, the solitary blossom here, the mass of flowers there. Some droop, others are erect ; these are in broad umbels, those in spikes, tassels, clusters, or panicles. While the larger number of flowers open by day, some are most conspicuous at night, and many open and close at regular hours. The goat's-beard, pimpernel (55) or poor man's weather-glass, and evening campion are well-

known illustrations. We are struck by the fact that some plants are fleshy, others are dry. These have edible fruits ; those have seeds, with down or wings, and others possess vessels which jerk their seeds from them.

Such matters as these it is of the first importance to study. Mere classification, while it enables us to identify a plant by means of its organs, teaches us little of its wonderful history, and the chief end of our study is to teach us this. As an aid and supplement to the following classification, we will now study some of the many points of structure.

2. *The Blossom*

is usually the first thing to arrest our attention. We first note its colour. It may be all of one hue, as in the buttercup ; or variegated, as in many of the orchids. The blossoms may be regular or irregular, with the sepals and petals separate or conjoined. Flowers which belong to one Natural Order (N.O.) are usually very much alike, although there are important exceptions. We find, for example, a great similarity between all the umbels (Group vi), the labiates or lip-flowers (Group iv), the orchids, the roses and buttercups, and other plants. But differences often exist. The columbine and monkshood (173) do not look much like buttercups, though they belong to the same family.

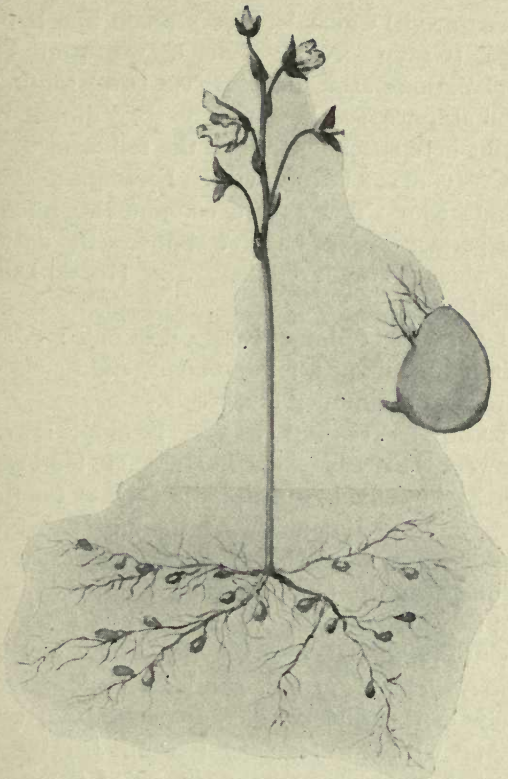


FIG. 8.—BLADDERWORT (*Utricularia*).

There are many plants among the rose family (Group xvii) which look very much like buttercups (Group xviii); but if we study the explanations attached to these two groups, we shall at once see how widely they differ. We ought here specially to note the following:

COMPOSITES (Group viii). Example: *Daisy.* Plants whose flowers are compound. Each of the perfect flowers has five stamens, the anthers of which form a tube. *See* Horse Daisy, Fig. 19.

LABIATES (Group iv). Example: *Mint.* Flowers lip-shaped, four stamens, and four seeds or nutlets in an open receptacle.

LEGUMES (Group xv). Example: *Pea.* Flowers butterfly-shaped, stamens ten, seeds usually in pods. A few plants, such as fumitory and the little blue milkwort, the butterwort and bladderwort, somewhat resemble labiates and legumes, as do also some of the Broomrapes and Scrophulariaceae (Group iv), Fig. 24.

CRUCIFERS (Group x). Example: *Wallflower.* There are four petals and six stamens. They can easily be distinguished from other plants with six stamens (Group ix) by the number of petals and the shapes of the leaves (Fig. 22).

UMBELS (Group vi). Example: *Carrot.* Flowers spreading like an umbrella, nearly always white.

3. *Catkins* (Fig. 6)

In many instances the flowers take the form of tassels, some of which are regular catkins, while others only loosely resemble these. Many of our native trees bear genuine catkins, and may be easily recognized thereby. The catkins of hazel and birch appear in winter. Those of the willow are large, and are often called palms. The alder, poplar, sweet gale (21), and other shrubs and trees also bear them. In the oak they are loose, and are not unlike the tassels found in dog's mercury (115), nettle (17), and elsewhere.

4. *Fruits and Seeds*

We generally think of fruits as sweet and edible, while seeds are for sowing. That is not the true difference, but it will suffice for us at present. Fleshy fruits are found on many kinds of plants, both herbaceous and shrubby. The N.O. Rosaceae (Group xvii) is the chief fruit-bearing family. Fruits vary in colour. We have one white berry, that of the mistletoe. Another is often found in hedges and gardens, but it (Fig. 26) is a foreigner (snowberry, *Symphoria*). A large number are crimson, scarlet, or some other shade of red. Among the herbs we find red berries on lily of valley, asparagus, strawberry, arum, bryony, and bittersweet; while the holly, yew, honeysuckle, rowan, guelder

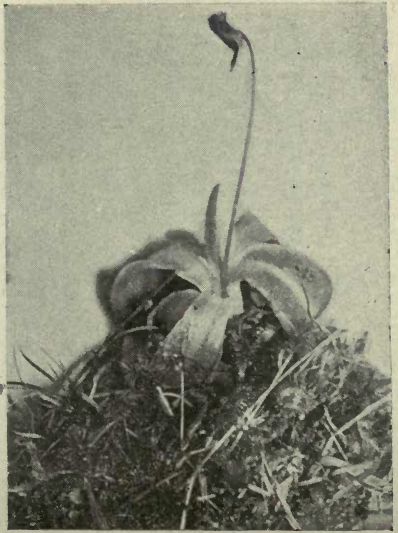


FIG. 9.—BUTTERWORT AND ROUND-LEAVED SUNDEW.

FIG. 10.—LONG-LEAVED SUNDEW.

rose, butcher's broom, arbutus, cranberry, rose, bramble, hawthorn, sea buckthorn, cherry, and raspberry are a few of the shrubs and trees whose fruits are red. Fruits of a deeper hue are found on the blackthorn, bilberry, elder, juniper, privet, buckthorn, ivy, crowberry, deadly nightshade (Plate III), and other plants.

Seeds are of many kinds, and are dispersed in various ways. We have pappus attached to the seeds of many composites (Group viii), such as the thistles and dandelion (Fig. 30), as well as to those of the willow, the willow-herb (Fig. 18), the valerian, and a few others. Hooked seeds, which can lay hold of the hair of animals or the dress of pedestrians, are found on avens (Fig. 25), goosegrass, hound's-tongue, woodruff, corn crowfoot, burdock, some trefoils, and other plants. A few plants eject their seeds in different ways, and the geraniums (Group xiv), gorse, broom, violet, and impatient bittercress are specially interesting in this connexion. Others, like the ash, maple, and elm, the lime and fir, have samarae, or winged seeds, which float on the breeze. The fruits or seeds of the different umbels, geraniums, legumes, crucifers, and buttercups are of great value as means by which to distinguish one species from another.

5. *Leaves, Bracts, and Stipules*

Many plants can be identified at once by

their leaves alone, and all can be arranged under two headings. Those with parallel veins are monocotyledons (Group ix), those whose veins are netted are dicotyledons. A very few leaves are round, as in pennywort; others are heart- or spear-shaped, oval, oblong, or palmate. We must observe whether they are opposite to each other or alternate, whether they are in whorls or scattered, simple or compound, entire or cut into segments, with plain edges or notched. Thus the umbels (Group vi) almost all have much-divided leaves; in the labiates (Group iv) they are opposite, frequently on a square stem, and the lip-shaped flowers have four stamens. Sometimes the leaves are modified and form bracts or stipules, and the presence or absence of these is of great importance. A few plants seem to have no leaves. The coltsfoot and saffron (86) bear flowers and leaves at different seasons. In the butcher's broom (85) the leaves are replaced by phyllodes, which carry the flowers.

6. *Stems and Outgrowths*

The stems may be smooth or rough, and the roughness may be due to stings, as in the nettle, hairs of different kinds, hooks, prickles, thorns, tendrils and other outgrowths. These all have their uses, chiefly to protect the plants from their foes, or to enable them to secure a suitable

FIG. 11.—FERTILIZATION OF ORCHIDS BY BEES.

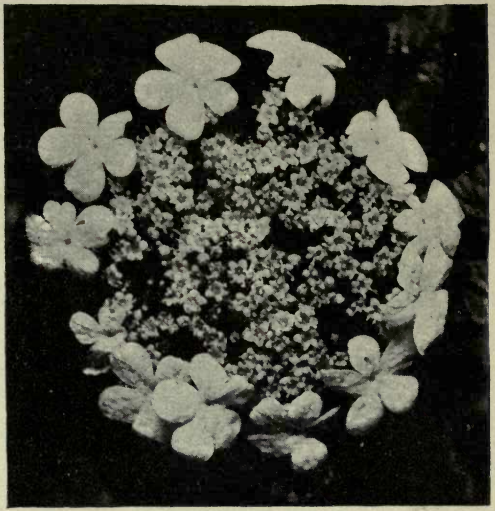


FIG. 12.—GUELDER ROSE.
With outer ray of florets for purposes of attraction.

hold and sufficient air and sunshine. Hairs may keep insects from climbing to the honey-pots and stealing the nectar; they may prevent rain and dew from lodging on the plant and causing decay, or may serve to check evaporation. Nature reaches her ends by many means. Sometimes a smooth, glossy surface keeps off the dangerous moisture, as in the leaves of holly and most evergreens, the celandine, marsh marigold, bog bean and water lily; while at other times hairs serve the same end. The prickles of the rose grow from the bark; the spines of the white and black thorn are woody. In the holly, butcher's broom, gorse, and other plants, the thorns and prickles are formed by the hardening of the leaf portions.

7. *Climbing and Rambling*

Many plants may be recognized by their habits. Some stand upright, others trail on the ground, and others use various means for reaching a height. Hooks and prickles, or stiff bristles, are used by brambles, roses, goosegrass, and a few other plants. The convolvulus, hop, honeysuckle, dodder (Fig. 7), bindweed, twine round and round; while vetches, white fumitory, and others throw out tendrils.

8. *Roots and Tubers*

Many of the monocotyledons (Group ix) have

FIG. 13.—CATKINS OF WILLOW.

FIG. 14.—FOXGLOVE (*Digitalis purpurea*).

bulbous roots, which are made up of layers of fleshy leaves. If we find a bulbous plant with six petals and stamens, and the veins of the leaves parallel, we may be sure it belongs to this group. Other plants have corms or tubers, as many of the orchids (p. 35), the pig-nut, bulbous crowfoot, arum (Plate IV), and moschatel. Some of the umbels and crucifers lay up much material in their roots, and by encouraging this habit we get our garden carrot and parsnip, radish and turnip. So starch is obtained from the arum (176) and potato, which is represented in our flora by the bittersweet (68).

9. *Aromatics and Poisons*

Some plants are harmless, others useful, and others poisonous. It is well to remember a few general facts. Nearly all the crucifers (Group x) are safe, and, if boiled, may be eaten as vegetables, even when found in a wild state. Cultivated, they yield cress and mustard, cabbage and cauliflower, radish and turnip, horse-radish and watercress. Most of the labiates (Group iv) are aromatic, and from them we obtain mint and thyme, sage, pennyroyal, and balm. The umbels (Group vi) are also inclined to be aromatic, but are often very poisonous. The order contains the deadly hemlock, but under cultivation we get from it celery, carrots and parsnips, fennel and samphire, as well as caraway

PLATE IV.—ARUM.

seeds, and a substitute for anise from sweet cicely. The rose family (Group xvii) yields many valuable fruits, the buttercups (Group xviii) such useful medicines as aconite, the poppies (Plate I) opium and laudanum, the composites (Group viii) the lettuce, chicory, tansy, chamomile, and other useful herbs and roots.

10. *Fly Catchers*

A few plants get their living, in whole or part, by trapping insects and living things. One family known as bladderworts (5) lives in ditches and sluggish water. There are three species, with yellow blossoms, and bladders on the leaves (Fig. 8), which float in the water, and are cut into many segments. Closely related, although very different in appearance and habit, are the four butterworts (4), with single violet flowers and greasy, glandular leaves, which curl their edges and so capture their prey (Fig. 9). Then we have the three sundews (82), with their red leaves covered with dewy glands (Fig. 10). Among the pink family we also find some plants known as catchfly (126), on account of the viscid hairs with which they are covered, and to which insects are often to be seen adhering. The curious toothwort (45) and teasel (10) are also guilty.

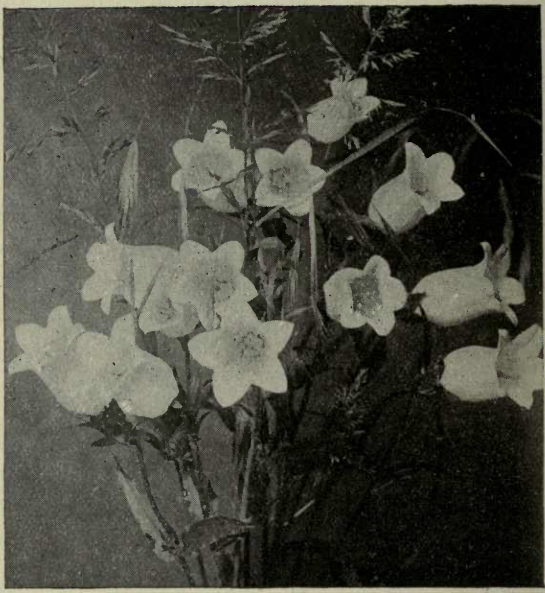


FIG. 15.—CAMPANULA, OR BLUEBELL.

11. *Spurges and Orchids*

There are two groups of plants which are so peculiar in their structure that beginners may be excused if they find it difficult to classify them. As they cannot very well be placed in any of the groups which follow, I must draw attention to them here. The spurges (Fig. 5) will be best recognized by their caper-like fruits, and their acrid, milky juice (see Group xvi). There are a few other plants which yield a similar juice, as the dandelion, lettuce, greater celandine (161), and poppy, but these all belong to the composites (Group viii), or to the plants with open blossoms and many stamens (Group xviii). There are about a dozen spurges, and, like the umbels and composites, they must be set aside till the student has gained a considerable knowledge of other plants.

There are about fifty orchids (8) in the British flora, and the group includes the most curious and interesting flowers in the world. They assume the shapes of bees, flies, spiders, insects, animals, and other living things, and are worth our best attention. One or two common kinds (Fig. 11) are found in our meadows, and if these are carefully studied it will be easy to recognize the others. They belong to the monocotyledons, but cannot be placed in the same group (ix) because they have not six

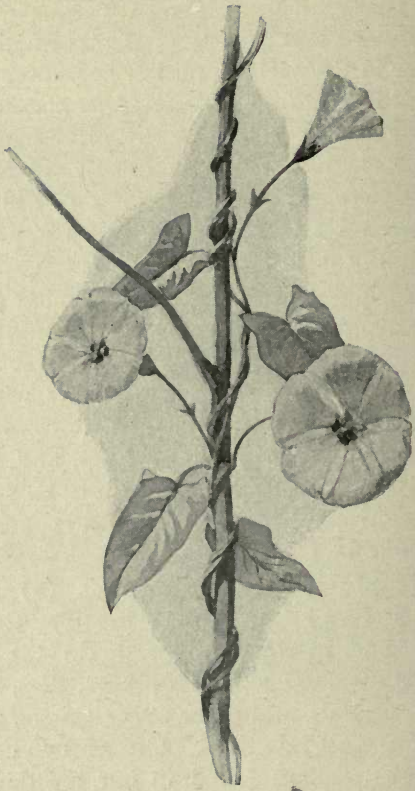


FIG. 16.—WILD CONVOLVULUS.

stamens. Their fleshy leaves, with parallel veins, strange shapes, and absence of stamens, will be sufficient guides for their identification.

IV. The Classification of Flowers

Plants have been classified in various ways. Some writers have divided them into trees, shrubs, and herbs; others have arranged them according to the colour of the flowers, the shape of the fruit, or the nature of the root. Linnaeus taught us to count the stamens and pistils. But in all these methods the real and natural resemblances were often overlooked. The apple is a tree, the rose a shrub, the strawberry a herb, and the fruits differ, yet their family relationships are strong. They each have five sepals, five petals, and many stamens. The stamens, too, are attached to the petals and sepals, and not, as in the buttercups, to the receptacle. So they all belong to one family, which has been named the Rosaceous family, N.O. Rosaceae.

But the beginner has to find out what forms a family or Natural Order (N.O.); and he must have a guide. I have therefore adopted the method of Linnaeus, and adapted it to the natural system. The stamens are the first and most important organs in the following method. The young botanist, when he has counted the stamens, will turn to the classification. He

FIG. 17.—WHITE WATER LILY (*Nymphaea alba*).

FIG, 18.—ROSEBAY WILLOW-HERB.

will find that in the monocotyledons the stamens are three (Triandria) or six (Hexandria); while in the dicotyledons they vary. But a dicotyledon may have six stamens. What is then to be done? It will be seen that plants with six stamens fall into two groups. In one the stamens are equal, and in the other there are four long and two short ones, and only four petals. These plants all have a strong family likeness, and owing to the arrangement of the petals they have been placed in the N.O. Cruciferae, Group x (Fig. 22).

Again, very many plants have five stamens, but in some cases they are free, while in others the anthers form a tube. In the latter case the flowers are compound, and so we have (Fig. 19) Group viii, N.O. Compositae, which corresponds with the Syngenesia of Linnaeus. The arrangement, therefore, is the simplest possible. There are very few plants with one stamen only, and these will not be found by the beginner, so I start with the plants which have two stamens and one pistil (or more). This forms the second class in the Linnean system, known as Diandria. The term *andria* in all these expressions means stamen, or male organ.

No system will include all the plants, because Nature refuses to be bound by rules laid down by man. But, once we have got a good hold of the great laws, the exceptions may be easily mastered.

FIG. 19.—HORSE DAISY (see Group viii).

FIG. 20.—IRIS, OR FLAG (see Group ix).

GROUP I. 2 stamens, 1 pistil. DIANDRIA.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
1	Ligustrum .	Privet . . .	June–July	Hedges. .	Shrub, evergreen, white flowers, bitter black berries.
2	Circaea (Fig. 28)	Nightshade .	June–Aug.	Woods . .	Flowers small, pink, leaves smooth, fruit hairy.
3	Veronica (34)	Speedwell .	April–Sept.	Fields . .	Blossoms usually blue, petals joined. 20 species.
	i. officinalis	Common S. .	May–Aug.	Heaths. .	Blue, stem hairy, fruit heart-shaped, notched.
	ii. Beccabunga	Brooklime .	May–Aug.	Water . .	Smooth, glossy, fruit roundish, tumid.
	iii. hederifolia	Ivy-leaved S.	Mar.–Sept.	Banks . .	Pale lilac, leaves heart-shaped, five to seven lobed.
4	Pinguicula .	Butterwort .	May–July.	Bogs . .	Violet, irregular with a spur, leaves unctuous.
5	Utricularia .	Bladderwort .	June–July	Pools . .	Yellow, leaves with bladders in the water (Fig. 8).
6	Lycopus . .	Gipsywort .	June–Sept.	Ditches .	White flowers in whorls. N.O. Labiatae, Group iv.
7	Salvia . .	Clary . . .	June–Aug.	Fields . .	Purple or blue flowers, large. Ditto, ditto.
		Wild Sage .	May–Aug.	Downs . .	Flowers smaller, about as long as the calyx.
8	Orchis. . .	Orchid . .	May–Aug.	Various .	*See* p. 35 and Fig. 11.
9	Salix . . .	Willow . .	Mar.–May	Marshes .	There are many species of Willow (Fig. 13).

GROUP II. 3 stamens, 1 pistil or more. TRIANDRIA.

This Group contains nearly all the different grasses, besides a few plants which belong to other natural orders. Crocus, Iris (Fig. 20), and Ruscus are Monocotyledons (Group ix).

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
10	Dipsacus . .	Teasel . . .	Aug.–Sept.	Wastes . .	Four feet; pink, heads large, leaves forming cups.
11	Scabiosa . {	Scabious . .	July–Aug.	Heaths . .	Lilac heads, corolla five cleft. Like a Composite.
	{	Devil's Bit .	July–Oct.	Pastures .	Purple heads; root ending abruptly.
12	Asperula . {	Woodruff . .	June–Aug.	Woods . .	White, fragrant when dry; fruit hispid.
	{	Quinsy Wort .	June–Oct.	Downs . .	Pink, smooth; fruit rugose.
13	Rubia . . .	Madder . .	June–Aug.	South of E.	Evergreen, rough, leaves in whorls, shining.
14	Galium . .	Bedstraw . .	May–Sept.	Various .	The bedstraws are numerous. N.O. Rubiaceae.
15	Plantago . .	Plantain . .	May–Sept.	Various .	About half a dozen species.
	i. major . .	Greater P. .	June–Aug.	Pastures .	Broad leaves with strong ribs, spike long.
	ii. lanceolata	Ribwort P. .	June–July.	Pastures .	Leaves lanceolate, flower spikes globular.
	iii. Coronopus	Buckthorn P.	June–Aug.	Gravel . .	Leaves divided, flower stalks cylindrical.
16	Cornus . .	Dogwood .	June–July	Woods . .	Shrub, flowers greenish, berries purple.
17	Urtica . .	Nettle . . .	June–Aug.	Wastes . .	Covered with stinging hairs. 3 species.
18	Parietaria . .	Pellitory . .	June–Aug.	Walls . .	Pink flowers in clusters, leaves three-veined.
19	Viscum . .	Mistletoe . .	March–May	Trees . .	Parasite, white berries, evergreen, shrubby.
20	Alchemilla {	Lady's Mantle	June–Sept.	Fields . .	Leaves shaped like mantle. N.O. Rosaceae.
	(see 155) {	Alpine ,,	June–Aug.	Mountains.	Leaves small, silky beneath, serrate.
21	Myrica . .	Sweet Gale .	June–July.	Bogs . .	Shrub, very fragrant, especially if bruised.
22	Cuscuta (Fig. 7)	Dodder . .	July–Sept.	Parasite .	Pink, waxy, on gorse, flax, clover, and thyme.
23	Buxus . . .	Box . . .	April–June	Hills . .	Evergreen shrub, leaves shining, flowers sessile.
24	Ilex . . .	Holly . . .	May–Aug.	Woods . .	Evergreen, spiny leaves, scarlet winter fruit.

FIG. 21.—LILY OF VALLEY
(see Group ix).

FIG. 22.—LADY'S SMOCK (*Cardamine pratensis:* Crucifer, Group x).

GROUP IV. 4 stamens, 2 long and 2 short. DIDYNAMIA.

§ 1. Herbs with square stems, opposite leaves, flowers lip-shaped in whorls or cymes, four seeds or nutlets. N.O. Labiatae; exceptions: Lycopus (6) and Salvia (7). This order includes about 20 British genera. The following are examples;

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
25	Mentha . .	Mint . . .	July–Sept.	Marshes .	Fragrant herbs, many species and varieties.
26	Thymus . .	Thyme . .	June–Aug.	Heaths . .	Small, fragrant herbs. 2 species, common.
27	Lamium . .	Dead Nettle .	—	Various .	Leaves resemble nettle, but stingless.
	i. album .	White D . .	March–Oct.	Wastes . .	Flowers white, large, tube curved, perennial.
	ii. purpureum	Purple D . .	Feb.–Oct.	Wastes . .	Rose-purple, a common weed, foetid, annual.
	iii. Galeobdolon	Archangel .	May–June	Woods . .	Flowers rich yellow, whorled, perennial.
28	Galeopsis . .	Hemp Nettle	July–Oct.	Fields . .	Four species, very similar to dead nettle.
29	Nepeta . .	Ground Ivy .	March–May	Wastes . .	Creeping plant, blue flowers, leaves reniform.
30	Marrubium .	Horehound .	Aug.–Sept.	Wastes . .	Erect, hoary, white flowers, woolly leaves.
31	Prunella . .	Self-heal .	July–Aug.	Fields . .	Violet flowers in dense spike, two leaves at base.
32	Scutellaria .	Skull-cap .	July–Aug.	Streams .	Two species, larger blue, smaller pink flowered.

§ 2. Herbs with irregular flowers, except Verbascum (33) and Veronica (3), usually showy, some parasitic, others poisonous. Seeds usually contained in a capsule. N.O. Scrophulariaceae and Orobanchaceae. These orders include nearly 20 British genera, of which the following are types:

33	Verbascum (64)	Mullein . .	June–Sept.	Banks . .	Tall spikes, yellow flowers. 6 species.
34	Veronica (3) .	Speedwell .	Mar.–Sept.	Various .	N.O. Scrophulariaceae, but with 2 stamens only.
35	Euphrasia .	Eyebright .	May–Sept.	Heaths . .	White flowers with pretty spots, 6 inches high.
36	Rhinanthus .	Yellow Rattle	May–July	Fields . .	Yellow flowers, seeds rattle in ripe capsule.
37	Melampyrum.	Cow-wheat .	May–Aug.	Copses .	Yellow blossoms four times as long as calyx.
38	Pedicularis .	Lousewort .	April–Sept.	Marshes .	Rose or crimson, sharp pointed seed vessel.
39	Scrophularia .	Figwort . .	April–Sept.	Marshes .	Square shining stem, foetid; flowers brown.
40	Digitalis . . (Fig. 14)	Foxglove . .	June–Sept.	Woods . .	Purple, thimble-shaped, spotted flowers in spikes.
41	Antirrhinum .	Snapdragon .	July–Oct.	Fields . .	Rose-purple, sepals longer than corolla.
42	Linaria . .	Toadflax . .	—	—	3 trailing and 4 erect species.
	i. cymbalaria	Ivy-leaved T.	May–Oct.	Walls . .	Purplish flowers, capsules buried in crevices.
	ii. vulgaris .	Yellow T. .	July–Oct.	Fields . .	Yellow, 2 feet high, like a Snapdragon.
43	Mimulus . .	Musk . . .	July–Sept.	Streams .	Handsome yellow flowers, stem erect, hollow.
44	Orobanche	Broomrape .	May–Sept.	Parasites .	Fleshy stems and leaves, turn black in drying.
45	Lathraea .	Toothwort .	April–May	Woods . .	Fleshy parasite under elm, hazel and other trees.

GROUP V. 5 stamens, free (not having the anthers united). PENTANDRIA. This group includes the N.O. Boraginaceae (46-51), with about a dozen genera; N.O. Primulaceae (52-5), with about 10 genera; N.O. Campanulaceae (56-9), and a number of others. Chiefly herbs with graceful flowers, some of which are poisonous, especially in the N.O. Solanaceae. Plants with 1 pistil (monogynia).

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
46	Myosotis . .	Forget-me-not	May–Aug.	Marshes .	Blue flowers, often changing colour, several kinds.
47	Symphytum .	Comfrey . .	May–June	Streams .	Yellowish white, bell-shaped blossoms.
48	Borago . .	Borage . .	June–July	Wastes . .	Hispid, blossoms blue, wheel-shaped, spreading.
49	Cynoglossum	Houndstongue	June–July	Wastes . .	Red-purple, leaves downy, seeds very rough.
50	Pulmonaria .	Lungwort . .	May–June	Thickets .	Pink or purple, with spotted leaves.
51	Echium . .	Bugloss . .	June–July	Fields . .	Purple, changing colour, rough or prickly.
52	Primula .	Primrose . .	Mar.–May	Woods . .	Yellow, single flowers, wrinkled leaves.
		Cowslip . .	April–June	Fields . .	Yellow, in umbels, drooping, wrinkled leaves.
		Bird's Eye .	June–July	Marsh . .	Lilac, leaves mealy, not found in south.
53	Hottonia . .	Water Violet.	May–June	Pools . .	Lilac, tall spikes in whorls, leaves in water.
54	Lysimachia	Loosestrife .	July–Aug.	Streams .	Tall plants, yellow flowers, woody stems.
		Moneywort .	June–Aug.	Thickets .	Prostrate, yellow solitary flowers, round leaves.
		Yellow Pimpernel . .	May–Aug.	Shades . .	Creeping, yellow flowers resembling the next.
55	Anagallis . .	Pimpernel .	May–Nov.	Fields . .	Only scarlet flower except the poppies.
56	Phyteuma .	Rampion . .	July–Aug.	Downs . .	Globose beads of blue flowers, local or rare.
57	Jasione . .	Sheep's Bit .	June–Sept.	Heaths . .	Blue flowers in hemispherical heads.
58	Lobelia . .	WaterLobelia	July–Aug.	Lakes . .	Leaves all under water, blue flowers on simple stem.

		Hairbell . .	July–Sept.	Heaths . .	Blue flowers on slender stem, drooping.
59	Campanula (Fig. 15)	Giant Bell-flower . .	July–Sept.	Woods . .	Four feet high, blue or white, strong plants.
		Nettleleaved B.	July–Sept.	Woods . .	Blue, two or three flowers on each peduncle.
		Clustered B. .	July–Aug.	Downs . .	Not drooping, flowers clustered at top and sides.
		Ivy-leaved B.	July–Aug.	Woods . .	Creeping, threadlike, leaves cordate, stalked.
60	Menyanthes .	Bog Bean. .	May–July	Bogs . .	Lilac flowers, bearded, leaves fleshy, three-parted.
61	Polemonium .	Jacob's Ladder	June–July	Copses . .	Blue flowers, often grown in gardens.
62	Convolvulus (Fig. 16)	Larger Convolvulus .	June–Aug.	Hedges. .	Large white blossoms, climbing stems.
		Lesser C. . .	June–Sept.	Fields . .	Smaller, pink, trailing around corn and plants.
		Sea C. . . .	June–Aug.	Shores . .	Prostrate, fleshy ; flowers large, purplish.
63	Lonicera . .	Honeysuckle.	June–Sept.	Hedges. .	Climber, lipped flowers, soft red fruits.
64	Verbascum .	Mullein . .	June–Sept.	Banks . .	Tall plants with woolly leaves and yellow flowers.
65	Hyoscyamus .	Henbane . .	June–Sept.	Wastes . .	Flowers dull yellow, streaked, very clammy.
66	Datura . .	Thornapple .	June–Aug.	Wastes . .	Seed vessel like horse chestnut, poisonous.
67	Atropa . .	Belladonna .	June–Aug.	Wastes . .	Dull purple flowers, large fruits, deadly (Plate III).
68	Solanum . .	Bittersweet .	June–Aug.	Hedges. .	Shrubby climber, flowers like potato blossoms.
69	Erythraea .	Centaury . .	June–Sept.	Pastures .	Rose coloured, erect, smooth, bitter.
70	Rhamnus . .	Buckthorn .	May–June	Thickets .	Shrubs (two kinds), with greenish flowers.
71	Euonymus .	Spindle Tree.	May–June	Hedges. .	Remarkable fruits, orange and crimson.
72	Hedera . .	Ivy	Winter	Trees . .	Climber, glossy leaves, green flowers, black fruits.
73	Vinca . . .	Periwinkle .	April–June	Thickets .	Trailing plants, glossy leaves, blue flowers.
74	Viola . . .	Violets. . .	Spring	Banks . .	Well-known plants, several species.

GROUP VI. 5 stamens, free, with 2 pistils or stigmas. This group (PENTANDRIA DIGYNIA) corresponds almost exactly with N.O. Umbelliferae. A large and difficult order, with some 40 genera in Great Britain. Flowers usually white, arranged in umbels. The fruit often supplies the best means of identification. The parsnip and carrot should be studied as a clue to the wild plants, hemlock, earthnut, hog-weed, fennel, and others.

GROUP VII. 5 stamens, free, with 2 pistils (75), 3 pistils (76–8), 4 pistils (79), or 5 pistils (80 2), or stigmas in each flower.

No.	Botanical Name.	Common Name.	Season	Situation.	Structure and Habit.
75	Gentiana . . (Fig. 23)	Gentian . .	Aug.–Sept.	Heaths . .	Blue or purple flowers, erect, half a dozen species.
76	Viburnum { (Fig. 12)	Guelder Rose Wayfarer Tree	June–July May–June	Woods . . Woods . .	White flowers, outer ones largest, red fruit. Leaves with curious hairs, mealy, rough.
77	Sambucus .	Elder . . .	June–July	Woods . .	A tree with creamy-white flowers, black fruit.
78	Tamarix . .	Tamarisk . .	July–Sept.	Seaside . .	Shrub, flowers in pretty spikes, pinky white.
79	Parnassia . .	Grass of Par.	Aug.–Sept.	Bogs . .	White, solitary, with five glands fourteen fingered.
80	Statice . .	Sea Lavender	July–Aug.	Shores . .	Sprays of purple flowers, leaves leathery.
81	Linum. . .	Flax . . .	June–Sept.	Chalk . .	Blue flowers on tall slender stalks.
82	Drosera . .	Sundew . .	July–Aug.	Bogs . .	Leaves with glands, fly-catcher. 3 species (Fig. 1c).

For Erodium, *see* Group xiv (N.O. Geraniaceae).

GROUP VIII. 5 stamens combined into a tube. This group is known by the name SYNGENESIA, and includes all plants with compound flowers, like the daisy and sunflower, of the N.O. Compositae. It is the largest order in the world, and the British genera number about 50. They may be divided into three sections. § 1. Those whose flowers are all tubular, as in the thistles, burdock, saw-wort and knapweed. § 2. Those whose flowers are all strap-shaped, as chicory, goatsbeard, and dandelion. § 3. Those with tubular flowers (disk) surrounded by strap-shaped forms (ray), as daisy, chrysanthemum, aster, ragwort, and golden rod. The flowers are usually showy, and vary in colour from pure white to pink, red, purple, and blue on the one hand, and green, yellow, orange on the other. Frequently the ray is of one colour and the disk of another, as in the daisy and chrysanthemum. A most pleasing group. The teasel (10), scabious (11), phyteuma (56), and jasione (57) have flower-heads somewhat like a composite. (*See* Fig. 19.)

FIG. 23.—GENTIAN.

FIG. 24.—CLOVER AND VETCH: Legumes (see Group xv).

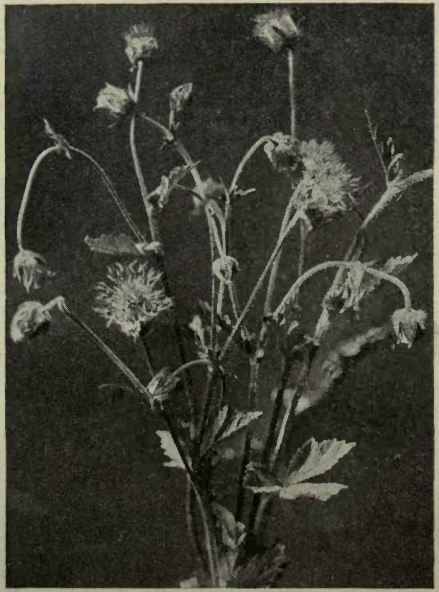


FIG. 25.—HERB BENNET.

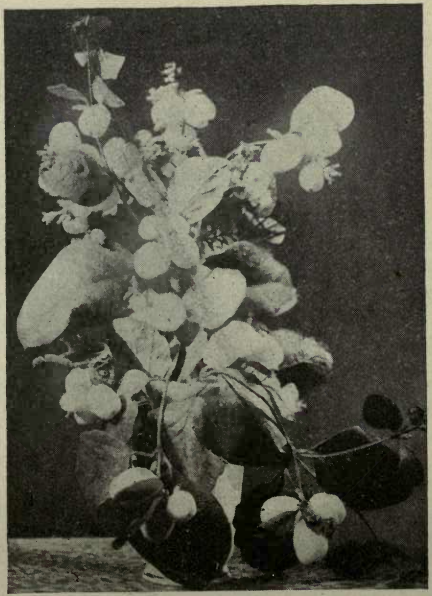


FIG. 26.—SNOWBERRY.

GROUP IX. 6 stamens, equal, 1 pistil (except Meadow Saffron). This group includes practically all the Monocotyledonous flowering plants, excepting the Orchids (see p. 35) and grasses. Many of the plants are bulbous. They are chiefly fleshy and showy. Many are regularly formed with a perianth of 3 sepals and 3 petals, others are irregular. In the next group the 6 stamens are of unequal lengths, and the petals are 4. I put here Crocus, Iris, and Butcher's Broom, which have 3 stamens, and Meadow Saffron, with 3 pistils. In the Linnean system this group forms the class known as HEXANDRIA.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
83	Crocus . . .	Crocus . . .	Sept.–Oct.	Meadows .	Purple flowers in autumn without leaves.
84	Iris (Fig. 20)	Flower de luce	May–Aug.	Thickets .	Flowers purple, stems angular, fruit in capsule.
		Gladdon . .	May–July	Marshes .	Flowers yellow, stems round.
85	Ruscus . . .	Butcher's Broom . .	Mar.–April	Woods . .	Evergreen, small flower on phyllodes, red berry.
86	Colchicum .	Saffron . .	Aug.–Oct.	Meadows .	Three styles as long as the stamens.
87	Narcissus (Fig. 4)	Daffodil . .	Mar.–April	Woods . .	Yellow, single flowered, bulbous, flat leaves.
88	Galanthus. .	Snowdrop .	Feb.–Mar.	Woods . .	Flowers white, solitary, drooping, bulbous.
89	Fritillary . .	Snake's Head	May–June	Pastures .	Chequered, drooping, solitary blooms. Rare.
90	Allium . . .	Wild Garlic .	April–June	Woods . .	White flowers, triangular stem, broad leaves, pungent.
91	Ornithogalum	Star of Beth.	June–July	Copses . .	Pretty white flowers, fleshy. 3 species.
92	Hyacinth . .	Blue Bell . .	April–June	Woods . .	Bulbous, long leaves, blue drooping flowers.
93	Narthecium .	Bog Asphodel	June–Aug.	Bogs . .	Rigid leaves and stem, yellow flowers, fibrous root.
94	Convallaria (Fig. 21)	Lily of Valley	May–June	Woods . .	Fragrant white drooping flowers, two broad leaves.

There are also a few plants found chiefly in ponds and streams, such as the flowering rush (114), arrowhead, water plantain, frog-bit (116), and water thyme, which belong to the natural orders represented by the Monocotyledons.

GROUP X. 6 stamens (4 long and 2 short), and 4 petals. This class, TETRADYNAMIA, includes all the plants known as Crucifers (N.O. Cruciferae), on account of the petals being arranged like a cross. There are many genera, including such valuable plants as the cabbage, turnip, mustard and cress. The fruits are most useful for identification. Some are shaped like a pouch, as shepherd's purse; others (as the wallflower) form a long pod.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
95	Isatis . . .	Dyer's Woad.	July–Aug.	Fields . .	Yellow flowers, leaves on stems arrow-shaped.
96	Thlaspi . .	Penny Cress .	April–July	Fields . .	White flowers, large flat pouches. 3 species.
97	Capsella . .	Shepherd's Purse	Feb.–Nov.	Wastes . .	One of the commonest of our weeds.
98	Teesdalia . .	Shepherd'sCress	April–June	Heaths . .	Leaves forming a rosette on the ground.
99	Cochlearia .	Scurvy Grass .	May–Aug.	Seaside . .	White flowers, fleshy plant, pods globose.
100	Draba . . .	Whitlow . .	April–May	Banks . .	Often only 1 inch high, early flowering.
101	Camelina . .	Gold of Pleasure	June–July	Fields . .	Rich yellow flowers, pods large on stalks.
102	Dentaria . .	Coralwort. .	April–May	Woods . .	Li'ac, 1 or 2 feet high, bulbiferous, rare.
103	Cardamine	Lady's Smock	April–June	Meadows .	Lilac blossoms, often called cuckoo-flower.
		Bitter Cress .	May–June	Marshes .	White, anthers violet (*C. amara*, L.) (Fig. 22).
		Impatience .	June–July	Rocks . .	White, pods snap when ripe and scatter seeds.
104	Barbarea . .	Rocket .	May–Aug.	Streams. .	Yellow, with short pod thicker than stalk.
105	Cheiranthus .	Wallflower .	April–May	Walls . .	Flowers yellow, smaller than garden form.
106	Sinapis . .	Mustard .	May–Aug.	Fields . .	Yellow, pods spreading and knotty. Charlock.
107	Raphanus .	Radish. .	June–July	Fields . .	White or yellow, pods long and large.

There is but one plant in the British Flora, known as Trientalis, or winter-green, which has seven stamens, so we pass on to

GROUP XI. 8 stamens, 1 to 4 pistils. OCTANDRIA. It is made up chiefly of the willow-herbs and heaths, with the milkwort.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
108	Oenothera .	Ev. Primrose	July–Sept.	Shores . .	Stem erect, hairy, flowers large, yellow.
109	Epilobium (Fig. 18)	Willow-herb	June–Aug.	Various . .	Long pods, which burst and show cottony seeds.
110	Chlora . . .	Yellow Wort.	June–Sept.	Fields . .	Yellow flowers, stem simple, glaucous.
111	Paris . . .	Herb Paris .	May–June	Woods . .	Solitary flower from a whorl of four leaves.
112	Adoxa . . .	Moschatel .	April–May	Hedges . .	Five small green flowers in a head.
113	Daphne . .	Spurge Laurel	Feb.–April	Woods . .	Shrub, fragrant yellow flowers, evergreen.

The milkwort is a little blue flower with curious blossoms found on heaths and hillsides. The different forms of heath and ling do not need description.

GROUP XII. 9 stamens. There are four plants in our islands which have nine as the normal number of stamens, and so form the Class ENNEANDRIA.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
114	Butomus . .	Flowering Rush	June–July	Marshes .	Rose flowers on tall, rushlike stalk. (Plate II).
115	Mercurialis	Annual . .	July–Nov.	Gardens .	Flowers green in tassels; stamens and pistils on separate plants.
		Perennial . .	March–May	Hedges . .	Turns blue when dried.
116	Hydrocharis .	Frog-bit . .	July-Aug.	Marshes .	Flowers delicate, white, leaves kidney-shaped.

GROUP XIII. 10 stamens. Pistils 1 (117–20), 2 (121–4), 3 (125–6), or 5 (127–30). Flowers regular, usually of 5 petals, except 119–20, 130, in which they are bell-shaped. This group includes N.O. Caryophyllaceae, and forms the class DECANDRIA.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
117	Monotropa .	Bird's-nest .	July–Aug.	Woods . .	Stem scaly, succulent, yellow racemes.
118	Pyrola . . .	Winter-green	June–Sept.	Woods . .	White racemes. Several species.
119	Andromeda .	Wild Rosemary	June–Aug.	Bogs . .	Shrubby, less than a foot, leaves glaucous below.
120	Arbutus . .	Strawberry tree	Sept.–Oct.	Ireland . .	Shrub, fruit like strawberry in winter.
121	Saxifraga . .	Saxifrage . .	May–Aug.	Various. .	Many species, chiefly mountainous.
122	Chrysosplenium	Golden Sax. .	April–July	Marshes .	Yellow. 2 species, leaves opposite or alternate.
123	Saponaria. .	Soapwort . .	July–Sept.	Hedges . .	1 to 2 feet, rose coloured, glabrous.
124	Dianthus . .	Pink . . .	June–Sept.	Banks . .	Pink or rose. Half a dozen species.
125	Stellaria . .	Stitchwort .	May–Aug.	Hedges . .	Straggling plants, white flowers. Several species.
126	Silene . . .	Catchfly . .	June–July	Fields . .	Often viscid, catching insects. Several species.
127	Lychnis . .	Campion . .	May–July	Hedges . .	Rose or white, the latter fragrant at night.
128	Cerastium .	Mouse-ear .	April–Aug.	Banks . .	Diffuse, small white flowers. Several species.
129	Oxalis . . .	Woodsorrel .	April–June	Banks . .	Delicate rose colour, acid, trefoil leaves.
130	Cotyledon .	Pennywort .	June–Aug.	Walls . .	Fleshy, simple stem, pendulous creamy bloom.

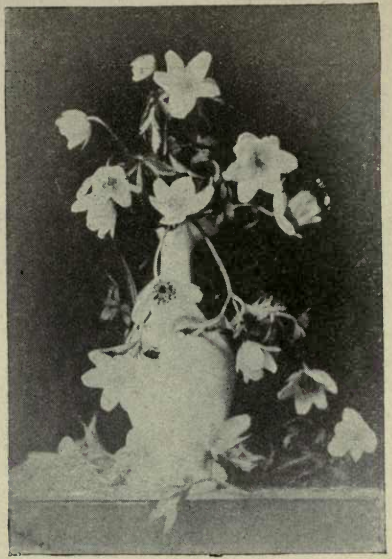


FIG. 27.—WOOD ANEMONE.

FIG. 28.—ENCHANTER'S NIGHTSHADE (*Circaea*, Group i).

FIG. 29.—MUSK MALLOW
(see Group xviii).

FIG. 30.—DANDELION IN FRUIT.

GROUP XIV. 10 stamens, 5 pistils, N.O. Geraniaceae, forming the class MONADELPHIA, in which the *bases* of the stamens are united. There are 5 petals, and the stamens are in two sets of 5, one set being in some cases suppressed (as in Erodium), so that the plants would seem then to belong to Group vi. Recognized by the beak-like fruits. For the mallows (N.O. Malvaceae) see Group xviii; plants with many stamens.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
131	Geranium	Crane's-bill .	May–Sept.	Various. .	About a dozen species in England.
	i. sanguineum	Bloody C. .	July–Aug.	Rocks . .	Handsome crimson flowers, one on a stalk.
	ii. sylvaticum	Wood C. .	June–July	Woods . .	Large purple blossoms, two on a stalk.
	iii. pratense.	Meadow C. .	June–July	Fields . .	Similar to ii, purple, leaves orbicular.
	iv. Robertianum	Herb Robert .	May–Aug.	Wastes . .	Smells foxy, rambling, pink, seeds smooth.
	v. lucidum .	Shining C. .	May–Aug.	Walls . .	Stems and leaves tinged with red, glabrous.
132	Erodium . .	Stork's-bill .	May–Aug.	Wastes . .	Flowers small, pink or rose. 3 species.

GROUP XV. 10 stamens, with butterfly-shaped blossoms, such as the pea, bean, clovers, and vetches, of N.O. Leguminosae. There are only two plants, fumitory and milkwort, which can be confused with the legumes or butterfly flowers, and they have not 10 stamens. This group forms the class DIADELPHIA, and contains about 20 genera, with nearly 100 species and varieties. The gorse, broom, clovers, vetches, and melilot are too well known to need description. It is important to study the fruit pods (legumes). The gorse and broom are shrubs; genista and rest-harrow are inclined to be woody; the rest are herbaceous.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
133	Genista . .	Greenweed .	May–Sept.	Heaths . .	Similar to a small broom-plant. 3 species.
133*a*	Ononis . .	Rest-harrow .	June–Sept.	Heaths . .	Rose-coloured flowers. 3 species, 1 spinous.
134	Anthyllis . .	Lady's Fingers	June–Aug.	Heaths . .	Yellow heads like a large clover. 1 species.
135	Medicago .	Medick . .	May–Aug.	Fields . .	Yellow, usually procumbent. 6 species.
136	Trifolium . .	Clover (Fig. 24)	May–Aug.	Fields . .	About 20 kinds, yellow, white and red.
137	Lotus . . .	Bird's-foot .	June–Aug.	Fields . .	Called shoes and stockings, or fingers and toes.
138	Vicia . . .	Vetch (Fig. 24)	April–Aug.	Fields . .	White, yellow, blue, and purple varieties, 10.
139	Lathyrus . .	Bitter Vetch .	May–Sept.	Fields . .	10 kinds, yellow, purple, or crimson.

GROUP XVI. 10 to 20 stamens. There are a few plants which have an uncertain number of stamens, which constitute the class DODECANDRIA. Three are trees; one is the houseleek, which is hardly wild, and two (Asarum and Hornwort) are rarely found. The spurges (see p. 35) are placed here, together with the purple loosestrife (1 pistil), agrimony (2 pistils), and wild mignonette (3 pistils). The spurges are known by their milky juice and the peculiar shape of the flower. When one has been identified all the rest may be easily recognized. There are 2 species of agrimony, 3 of mignonette, and more than a dozen spurges. Purple loosestrife has its stamens of different lengths.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
140	Asarum . .	Asarum . .	May–June	Woods . .	Solitary drooping flower from pair of leaves. Rare.
141	Lythrum . .	Loosestrife .	July–Sept.	Water . .	Purple flowers in long spikes, by water side.
142	Agrimonia .	Agrimony. .	June–July	Banks . .	Tall, yellow spikes, sweet. N.O. Rosaceae (152)
143	Reseda . .	Mignonette .	June–Aug.	Wastes. .	Tall plants, flowers similar to the garden form.
144	Euphorbia .	Spurge . .	March–Oct.	Various. .	Curious plants with white, bitter milky juice. (Fig. 5.)

GROUP XVII. 20 stamens, more or less. This group covers the plants belonging to N.O. Rosaceae, of the class ICOSANDRIA. At first sight the plants of this order, and those belonging to the buttercup family, might seem to belong to the same group. They are, however, easily distinguished. The rose family has (with one or two exceptions) the stamens attached to the petals or calyx, not to the receptacle. The fruits are usually pulpy and edible, scarcely one being poisonous. In the next group the stamens are on the receptacle, the fruits are dry, and the plants nearly all more or less poisonous. Omitting the fruit trees, such as the cherry, crab, medlar, and hawthorn, all the plants in this group have numerous pistils.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
145	Spiraea . .	Meadowsweet	May–Aug.	Damp . .	Sweet creamy blossoms, reaching 3 feet.
146	Geum (Fig. 25)	Avens . . .	April–July	Hedges. .	Yellow, seeds like shepherd's crook.
147	Potentilla. .	Cinquefoil .	Mar.–Sept.	Various. .	Yellow or white flowers, a dozen species.
148	Comarum . .	Marsh C. . .	May–July	Bogs . .	Dingy purple, fruits dry, strawberry-like.
149	Fragaria . .	Strawberry .	May–July	Hedges. .	White flowers, fruit well known.
150	Rubus. . .	Bramble . .	June–Aug.	Hedges. .	Many kinds, yielding the blackberry.
151	Rosa . . .	Rose . . .	May–July	Hedges. .	The different wild roses are numerous.
152	Agrimonia .	Agrimony. .	June–July	Banks . .	A second kind found in South of England.
153	Sanguisorba .	Burnet . . .	June–Aug.	Meadows .	Flowers in purple heads, few stamens, leaflets many.
154	Poterium . .	Lesser B. . .	June–Aug.	Chalk . .	Leaflets many, stamens many, smaller than last.
155	Alchemilla .	Lady's Mantle	June–Sept.	Fields . .	Given in Group iii (20) because of few stamens.

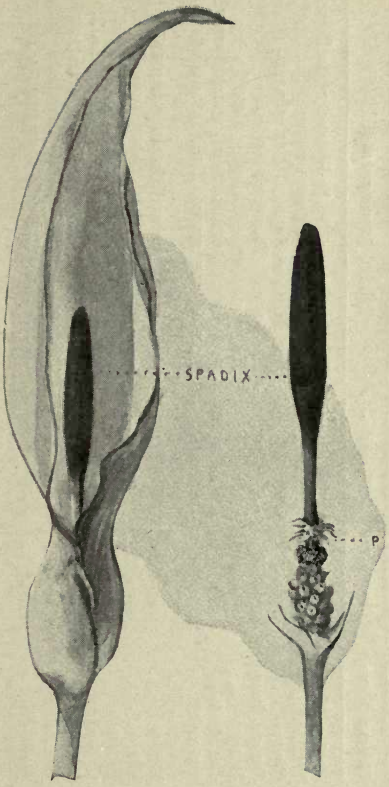


FIG. 31.—ARUM SPATHE AND SPADIX.
(P) Palisade to keep insects inside the flower.

(See Group xviii).

GROUP XVIII. 20 stamens or more, situated on the receptacle, as can be proved by carefully removing the sepals and petals. Most of the plants are poisonous, hence this point must be specially noticed to distinguish this group from the last. The class POLYANDRIA includes the water lilies, poppies, buttercups, and their allies belonging to N.O. Nymphaeaceae (156-7), Papaveraceae (158-61), Ranunculaceae (163-73), &c. I also include St. John's Wort, Mallow, and Arum.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
156	Nymphaea .	Water Lily .	June–Aug.	Lakes and	Sepals 4, greenish, handsome white flowers.
157	Nuphar . .	Yellow Lily .	June–Aug.	Streams	Sepals 5 or 6, yellow, smaller (Pl. II and Fig. 17).
158	Papaver . .	Poppy . . .	—	Fields . .	The first four are scarlet or crimson.
	i. hybridum	Round Poppy	May–July	Fields . .	Fruit round, furrowed, hispid.
	ii. Argemone	Long ,,	May–July	Fields . .	Fruit pear-shaped, hispid (Plate I).
	iii. Rhoeas .	Common ,,	May–July	Fields . .	Fruit round, smooth, hairs on stalk. spreading.
	iv. dubium .	Smooth ,,	May–July	Fields . .	Fruit oblong, smooth, hairs pressed down.
	v. somniferum	White ,,	June–Aug.	Fields . .	Fruit smooth, round, leaves glaucous.
159	Meconopsis .	Welsh ,,	June–July	Rocks . .	Yellow flowers, fruit oblong, smooth.
160	Glaucium . .	Horned ,,	May–Aug.	Shores . .	Yellow, fruit a very long pod, glaucous.
161	Chelidonium .	Celandine. .	May–Aug.	Banks . .	Yellow flowers, stalk yields orange milk.
162	Helianthemum	Rock Rose .	June–Aug.	Rocks . .	Yellow or white, shrubby. 2 sepals, small.
163	Clematis . .	Travellers' Joy	July–Aug.	Hedges . .	Climbing shrub, white flowers, feathery seeds.
164	Thalictrum .	Meadow Rue	July–Aug.	Streams .	Racemes of loose yellow or creamy flowers.
165	Anemone (Fig. 27)	Windflower .	April–May	Woods . .	Sepals changed to white or pink, drooping.
166	Adonis . .	Pheasant's Eye	May–July	Fields . .	Pretty crimson flower, 5 to 10 concave petals.
167	Ranunculus .	Buttercup .	—	Various .	About 20 species and 20 varieties.
	i. aquatilis	Water B. . .	May–Aug.	Streams .	Very variable, white flowers, yellow centres.
	ii. Ficaria.	Celandine .	Mar.–June	Fields . .	Root tuberous, 8 petals and 3 sepals.

No.	Botanical Name.	Common Name.	Season.	Situation.	Structure and Habit.
167	Ranunculus—	*continued.*			
	iii. lingua .	Spearwort .	June–Sept.	Bogs . .	Largest kind, 3 to 5 feet, long leaves (Plate II).
	iv. acris .	Upright B. .	June–Aug.	Fields . .	Calyx spreading, root fibrous.
	v. bulbosus	Bulbous B. .	May-Aug.	Fields . .	Calyx turned back, root bulbous.
	vi. repens	Creeping B. .	May–Aug.	Fields . .	Calyx spreading, stalk furrowed, root creeping.
	vii. arvensis	Cornfield B. .	May–July	Fields . .	Growing among corn, pale, hooks on fruit.
168	Caltha . .	Marsh Marigold . .	Mar.–June	Marshes .	Showy yellow flowers, succulent stems.
169	Trollius . .	Globe-flower .	May–June	Mountains.	Globular yellow blooms, not opening out.
170	Helleborus .	Hellebore .	April–May	Woods . .	Green flowers ; 1 to 2 feet, poisonous.
171	Aquilegia . .	Columbine .	May–June	Woods . .	Purple flowers with spurs. Often in gardens.
172	Delphinium .	Larkspur . .	June–July	Corn . .	Blue flowers, irregular with long spur.
173	Aconitum .	Monkshood .	June–July	Streams .	Dark blue flowers shaped like a hood.
174	Hypericum .	St. John's Wort .	June–Aug.	Various .	10 species, forming the class Polyadelphia.
	i. Androsaemum	Tutsan . .	June–Aug.	Woods . .	Handsome flowers, stamens in 5 bundles.
	ii. perforatum	Common St. John	July–Aug.	Hedges .	Leaves held to light seem perforated.
	iii. quadrangular	Square St. John	July–Aug.	Hedges .	Stem square, stamens in 3 bundles.
	iv. pulchrum	Small St. J. .	June–Aug.	Banks . .	Flowers red in bud, stems round, erect.
	v. elodes .	Marsh St. J. .	July–Aug.	Bogs . .	Prostrate, rooting, leaves hairy, flowers few.
175	Malva . . .	Mallow . .	June–Oct.	Wastes . .	Petals and sepals 5, stamens form tube (Fig. 29).
176	Arum (Pl. VI and Fig. 31)	Lords and Ladies	April–May	Banks . .	Peculiar flower like a hood with poker inside.

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